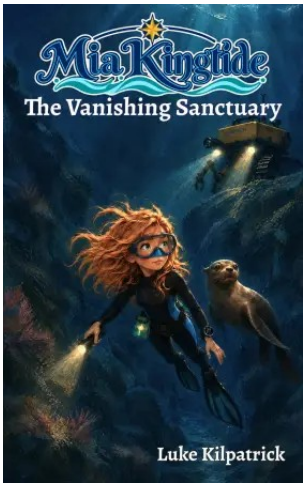
The Vanishing Sanctuary

A teacher's and reader's guide



BOOK 4 | MIA KINGTIDE OCEAN ADVENTURES

Suggested teaching focus: ages 11-16, grades 6-10. Adapt the research and argument tasks to students' experience. These are guide recommendations, not a measured reading level.

Big question: What makes evidence persuasive, and how should people act when a living ecosystem is at risk?

Mia encounters a threat that joins deep-sea technology, commercial ambition and weakened protection. Her response raises questions about science, trust, civic action and the responsibilities that accompany unusual power.

Inside: A flexible reading plan; chapter connections; vocabulary; 22 discussion questions; four classroom projects; six writing prompts; teacher response notes; two reproducible student sheets; assessment and sources.

Find it quickly: Teaching plan 2 | Chapter map 3 | Word bank 4 | Discussion 5-7 | Projects 8-11 | Writing 12 | Teacher notes 13 | Student sheets 14-15 | Curriculum and sources 16.

This expanded guide follows the book's included reader's guide: ocean conservation, character development, science, ethics, personal connections, four projects and six writing prompts. It adds lesson procedures, evidence checks, assessment and student sheets.

Prepared for classrooms, libraries, book clubs and families. Contains spoilers. Based on the novel by Luke Kilpatrick.

Teaching evidence and responsibility

A six-phase reading framework

Learning goals: Build an interpretation from textual evidence; distinguish a claim from its support; evaluate source limitations; compare technological purposes and consequences; construct an argument with a fair counterargument; propose a realistic civic or research contribution.

1. Chapters 1-3: notice the threat. Begin an evidence ledger. Separate Mia's observations, scientific explanations and claims made by interested parties. Record what remains unknown.

2. Chapters 4-6: communicate and persuade. Examine the footage problem and public-comment scene. Practice a short evidence-based statement with a clear request and an acknowledged uncertainty.

3. Chapters 7-9: gather and interpret. Discuss the difference between useful information and a conclusion that exceeds it. Explore how wildlife research can contribute context without proving every claim.

4. Chapters 10-12: technology and incentives. Analyze the automated system and the pressure to launch. Ask which goals its design favors and which consequences are missing from the decision.

5. Chapters 13-14: action and accountability. Discuss the intervention and its fantasy elements. Compare the roles of researchers, authorities, family and allies without turning fictional methods into real-world instructions.

6. Chapter 15 and reflection: Evaluate the resolution. Ask what enforcement, restoration and continued monitoring would each contribute, and what a dramatic ending cannot settle by itself.

Allow 30-45 minutes per discussion, plus reading time. Projects take one or two class periods; research and an optional interview may require additional time.

Support: Provide an evidence ledger, vocabulary previews and short source excerpts. Accept recorded arguments. **Extend:** Require a counterargument, a source-quality comparison and a revised conclusion after peer review.

Preparation: Novel, paper, selected official science resources, calculator if desired and a timer. No field access, underwater activity or contact with suspected wrongdoing is required.

Follow the investigation

Chapter map and interpretive stops

1-3 | Call of the Ocean; Into the Deep; Data from the Deep

Mia's connection to the ocean brings her into contact with a damaging operation. Identify what she observes, what other characters know and where the reader has information Mia does not.

4-6 | The Problem with the Footage; Ruining the Ocean, for 10 Million a Carat; Three Minutes for Public Comment

Evidence must be communicated to people with different expectations. Examine the credibility problem, Vane's commercial motivation and the hearing's competing arguments.

7-9 | Hunting Hunter's Gaffe; The Evidence; Signals We Can't Ignore

The investigation develops through recordings, observation and research connections. Discuss source context, corroboration and the temptation to act before all questions are answered.

10-12 | The Warehouse; Early Launch; Deployment

An automated operation and a changing schedule increase pressure. Track the difference between technical capability, authorization and responsible decision-making within the fictional plot.

13-14 | Hook, Line and Sinker; Queen Mia's Revenge

The response combines research equipment, allies and Mia's powers. Identify which contributions depend on real kinds of expertise and which belong to fantasy.

15 | Epilogue

The ending addresses consequences and future protection. Ask how the narrative offers closure while leaving long-term ecological recovery and stewardship as ongoing concerns.

A three-column reading habit

Observation: What does a scene, recording or measurement show? **Interpretation:** What might it mean? **Open question:** What information would strengthen or challenge the interpretation?

Use chapter numbers rather than fixed page references. Editions differ in pagination. If a chapter heading is shortened in a class discussion, retain the number so everyone can find the same passage.

Plot boundary: The agencies, legal developments, commercial mineral and outcomes in this thriller must not be treated as a guide to current law or an account of actual misconduct by real institutions.

Words for a careful argument

Science, technology and civic reasoning

Ecosystem: Organisms and their physical environment interacting in a place.

Baseline: Information collected before a change or intervention for later comparison.

Corroboration: Independent support that strengthens confidence in a claim.

Provenance: Where information came from and how it reached the reader.

Inference: A conclusion drawn from observations and other knowledge; it can be revised.

Uncertainty: What is unknown, variable or not established by available evidence.

ROV: A remotely operated vehicle. Underwater research ROVs can carry cameras, instruments and sampling tools. [R1]

Autonomous system: A system that performs specified tasks without continuous direct human control. Its goals and limits still reflect design choices.

False positive: A result that indicates something is present when it is not. Ask what was tested and how errors were evaluated.

Jurisdiction: The scope of an authority's power. The novel's jurisdictional conflict is fictional and is not current legal guidance.

Stakeholder / incentive: Someone affected by a decision / a reward or pressure that can influence behavior.

Counterargument: A reasoned challenge to a claim, represented fairly before responding.

Two essential distinctions

Abyssium is invented. Vane's luxury-mineral scheme should not be presented as a factual example of a particular real mineral market. Use it to ask questions about value, incentives and ecological costs, then research real cases separately.

A visible effect is not a complete impact assessment. Real deep-sea mining discussions include habitat disturbance, sediment plumes and gaps in ecological knowledge. These concerns warrant careful investigation; a short video cannot establish every cause, scale or long-term outcome. [R2]

Try it: Write one sentence using "shows," another using "suggests" and a third using "does not establish." Explain why the verbs communicate different levels of confidence.

Discuss: ocean conservation and trust

Questions 1-8

Use chapter evidence and distinguish an interpretation of the novel from a claim about the real world.

1. A living place or a resource? | Chapters 2-5

How do Mia and Vane assign value to the same environment? Compare their language, actions or priorities. What becomes invisible under each viewpoint?

2. Belief is not enough | Chapters 4-6

Why does caring deeply about the ocean not automatically persuade others? What resources, evidence or relationships help turn concern into an effective argument?

3. Scientific partners | Chapters 4 and 9

What do the scientists contribute that Mia's powers alone cannot? Explain how methods, expertise or credibility change what can be understood or communicated.

4. When protection weakens | Chapters 2 and 6

How does the novel's fictional change in protection create an opening for harm? What does the plot suggest about the relationship between rules and the capacity to enforce them?

5. Two uses of machines | Chapters 2, 10 and 13

Compare a machine used for extraction with research technology used in the response. How do purpose, design and operator choices shape consequences?

6. A double identity | Chapters 1 and 4

How does Mia's secret complicate the credibility of her evidence? What tension arises between being believed and protecting information about herself?

7. A supportive parent | Chapters 4-12

Choose a scene involving Luke. How does he support Mia while responding to danger or uncertainty? Does support always mean agreeing with her preferred action?

8. Friendship and trust | Whole book

How does Jessica's role illuminate trust? Find a moment where friendship carries a responsibility beyond simply sharing an adventure.

Discussion move: Before responding, state the strongest version of a classmate's interpretation. Then add supporting evidence or identify a specific point of disagreement.

Discuss: motives, methods and ethics

Questions 9-16

9. Complementary allies | Chapters 7-14

Choose two allies with different abilities. Explain why their contributions are not interchangeable. What would be missing if one were absent?

10. Changing cooperation | Chapters 3-14

How do Fitchmann's choices develop under pressure? Distinguish what the text establishes about his motives from what you infer. What would count as meaningful accountability?

11. Real research in a fictional plot | Chapter 9

How do the research settings and scientific work make the story feel grounded? Why must readers still distinguish fictional dialogue and events from real people's views or actions?

12. Technology is designed for a purpose | Chapter 10

What goals and incentives shape the automated system? Identify a question its designers should ask about errors or unintended consequences.

13. Signals and explanations | Chapter 9

Choose a wildlife observation or research connection. What could it suggest, and what additional evidence would be needed to establish a cause?

14. From the novel to a real issue | Chapters 5 and 10

Which questions about deep-sea extraction transfer usefully to real research? Which details, including abyssium and the plot's legal situation, must remain labeled fiction?

15. Rules as obstacles | Chapters 5-6

How does Vane frame restrictions? Construct a fair argument for why limits might exist, then identify the evidence needed to judge a particular policy rather than assuming every rule is effective.

16. Profit and protection | Chapters 5, 10 and 15

Does the novel suggest that economic value and ecological value are measured in the same way? Compare who receives benefits, who bears risks and whose interests are difficult to price.

Quick check: Underline any answer that claims "proves." Does the evidence really establish that conclusion, or would "supports" or "suggests" be more accurate?

Discuss: agency and responsibility

Questions 17-22

17. Young people as participants | Chapters 6-14

Where does Mia contribute something adults need? Which parts depend on fantasy, and which suggest realistic roles for young people in research, communication or community learning?

18. Working through institutions | Chapters 6-12

How does Lexie's work differ from Mia's? Explain why procedural steps can matter even when urgency makes them frustrating. Avoid treating the fictional process as current legal advice.

19. Power and limits | Whole book

What responsibility comes with Mia's abilities? Choose a moment when having the power to act is different from knowing the best action to take.

20. An invitation beyond the ending | Epilogue and closing material

How does the book invite readers to continue caring about the ocean? Which invitation feels achievable, and what support would a young reader need?

21. A local contribution | Whole book

Design one realistic class contribution: learning from a public dataset, sharing accurate information, supporting an adult-led project or another appropriate action. Identify a first step and how you would assess its usefulness.

22. A career behind the adventure | Whole book

Choose a role such as marine scientist, engineer, educator, policy specialist or rehabilitation worker. What skills does the story suggest? What would you ask a real professional to check your impression?

Seminar close

Each participant offers one well-supported conclusion and one uncertainty they are keeping open. Ask whether any evidence changed a view during the discussion.

Short book-club selection: Questions 1, 5, 6, 12, 17 and 19.

Exit ticket: "The most responsible next step is ___ because ___. Before making a stronger claim, I would need ___."

Project 1: Research a marine sanctuary

Connect a real place with an evidence-based question

Time: Two 45-minute sessions. **Materials:** Official sanctuary or protected-area resources, paper and the novel. **Product:** A two-page research brief or equivalent presentation.

1. Choose a real place. Select Monterey Bay National Marine Sanctuary or another marine protected area. Record the full name and the official source. Different designations have different purposes; do not assume they all prohibit the same activities.

2. Describe the place. Locate it on a map and identify two habitats or species using current official information. Explain why each matters to the inquiry rather than producing a list of attractions.

3. Ask a focused question. Examples: How is a habitat monitored? What does one education program help visitors understand? What evidence is used to track a documented pressure? Avoid a question so broad that no short brief can answer it.

4. Compare two sources. Use an official resource and a relevant research or education source. Record author or institution, date and purpose. Explain what each adds and whether one merely repeats the other.

5. Separate the novel from reality. Include a box titled "Story connection, not a factual claim." Explain one connection to Mia's concern and one fictional detail that must not be transferred to the real site.

6. Write a careful conclusion. Answer the question to the extent the evidence permits. Identify a limitation and one next source or measurement. If discussing rules, date the information and direct readers to current official guidance rather than turning the brief into legal advice.

Success criteria: Accurate place identification, focused question, traceable sources, clear fiction boundary and a proportionate conclusion.

Support: Provide a source packet and headings. **Extend:** Compare two monitoring approaches or analyze a small published dataset, including units and uncertainty.

Share: Partners ask, "Which sentence has the strongest support? Which sentence needs a narrower claim?"

Project 2: Create a marine ally with a dossier

Use imagination without inventing scientific evidence

Time: 50-60 minutes. **Materials:** Novel, two reliable species sources, paper and art tools. **Product:** A character profile, a short scene and a research note.

1. Select a species. Choose an animal suited to a habitat encountered in the book. Verify depth range or habitat rather than placing a familiar shallow-water animal anywhere in the deep ocean.

2. Build the factual dossier. Record classification, habitat, feeding, one adaptation and one documented pressure or knowledge gap. Attach a source to each claim. If reliable information is limited, say so rather than filling gaps with invention.

3. Create the ally. Give the character a name, a distinctive voice and a contribution to Mia's investigation. The contribution should connect to its researched biology while clearly labeling human-language speech and thoughts as fantasy.

4. Write a 200-word scene. Let the ally reveal something Mia has overlooked. Include a moment when the animal cannot answer a question. This keeps the character from becoming an unlimited source of convenient information.

5. Add an evidence boundary. Explain which details are supported by research, which are plausible artistic choices and which depend on magic. A plausible detail is not automatically a verified fact.

6. Peer review for overclaiming. A partner checks statements containing "always," "never," "only" or "all." Revise unless the source supports that exact scope.

Success criteria: Habitat fit, accurate and credited facts, a meaningful narrative role and explicit limits on knowledge.

Support: Use a teacher-prepared species packet and a shorter scene. **Extend:** Compare an animal's sensory abilities with the instruments researchers use to study the same environment.

Reflection: What became more interesting when research complicated your original character idea?

Project 3: A deep-sea mining deliberation

Build arguments that distinguish evidence from values

Time: Two 45-minute sessions. **Materials:** Novel, a balanced teacher-selected packet of authoritative science sources, role cards and timer. **Product:** A written recommendation with a counterargument and uncertainty statement.

Scenario: A fictional review panel is considering a proposed seabed extraction project. Do not use Vane's invented luxury mineral as if it were a real commodity. The exercise explores decision-making, not a current permit or legal dispute.

1. Establish a shared fact sheet. Identify the proposed activity, possible habitat effects, information gaps and claimed benefits. Label every numerical value as sourced or hypothetical. Real concerns include disturbance and sediment plumes; impacts and uncertainty depend on context. [R2]

2. Assign roles carefully. Groups represent researchers, project proponents, conservation advocates and affected communities. These are classroom roles, not claims that a group holds one uniform opinion. Supply evidence for each position rather than asking students to invent facts.

3. Separate three kinds of statement. Mark factual claims, predictions and value judgments. For example, a claim about plume behavior requires evidence; a judgment about acceptable risk also involves values.

4. Prepare an argument. Each group offers a recommendation, two supported reasons, its strongest counterargument and a condition that could change its view. Missing evidence should remain visible.

5. Deliberate. Give each group two minutes, followed by clarification questions. The panel compares options such as further study, a more limited proposal or declining the proposal. Students may reach different conclusions if they justify them responsibly.

6. Write individually. Explain the recommendation, who benefits and bears risk, the most important uncertainty and the evidence needed next. Distinguish the exercise from the novel's resolution.

Success criteria: Traceable evidence, fair treatment of opposing arguments, explicit values and a conclusion proportionate to uncertainty.

Support: Provide claim/evidence frames. **Extend:** Evaluate how different risk thresholds change the recommendation without changing the underlying data.

Project 4: Interview a scientist or specialist

Investigate how knowledge is made

Time: 45 minutes to prepare, an optional interview session and 30 minutes to synthesize. **Materials:** Institutional profile or public interview, novel and notes. **Product:** A question set and a one-page evidence brief.

A teacher-arranged visit is optional. A public recorded interview or written Q&A provides a complete alternative and avoids making the project dependent on someone's availability.

1. Choose a relevant role. Consider an oceanographer, marine biologist, ROV technician, data scientist or educator. Identify what the person's expertise covers and what lies outside it.

2. Research before asking. Read a profile and one account of their work. Write a specific question the source leaves open. Do not presume the real person endorses the fictional dialogue or events in the novel.

3. Prepare six questions. Include the research question, methods, uncertainty, a surprising result, collaboration and how findings reach decision-makers. Ask, "What would make you revise that explanation?" rather than seeking only a dramatic success story.

4. Plan ethical note-taking. A teacher handles contact. Ask permission before recording; agree on how quotations may be used. Do not publish private contact information. If using a public recording, note the title and timestamp.

5. Listen for limits. Record an example of what the specialist can conclude and what they cannot yet conclude. Ask a clarifying follow-up instead of filling a gap with your own assumption.

6. Write the brief. Summarize three findings, one method, one uncertainty and one connection to a chapter. Clearly distinguish quotation, paraphrase and your interpretation. Credit the source.

Success criteria: Questions fit the expertise, reporting is accurate, uncertainty is represented fairly and the novel connection is specific.

Support: Offer question stems and a short recording. **Extend:** Compare two specialists' methods for investigating the same broad issue.

Reflection: How did learning about the method change your confidence in the conclusion?

Six invitations to write

Expanded from the book's included guide

Aim for 300-600 words, adjusted to the learner. Use chapter evidence for literary claims. Clearly label invented scenes and dialogue.

1. A reporter after the investigation

Write a news report on the fictional events involving Vane. Separate established story events from allegations at a particular point in the timeline. Include context, a source attribution and an unanswered question. Do not present fictional events as real news.

2. Sunny's diary

Write an imagined diary entry from Sunny's perspective about Mia's changing responsibilities. Use the contrast between a familiar home setting and an enormous ocean problem. Add a note identifying which character details come from the text.

3. A letter from a marine ally

An ally writes to Mia after the ending. Include gratitude, a concern that remains and a request that does not depend on instant ecological recovery. Pair the letter with a brief fact/fiction note about the species.

4. A dialogue with a skeptical adult

Mia explains an environmental concern to an adult who doubts her interpretation. Both ask sincere questions. Let the exchange turn on evidence, limits and a clear request rather than a sudden change of heart with no reason.

5. Vane's internal monologue

Explore the reasoning Vane uses to justify a choice. Ground the voice in the novel without endorsing the conduct. Follow with a paragraph analyzing where the reasoning ignores a consequence, person or value.

6. A gathering of young ocean guardians

Invent a meeting of young people from different places discussing a shared concern. Avoid assigning stereotyped views to real communities. Give each character a question, a local connection and a realistic contribution; show how they agree on a manageable next step.

Revision checklist: Is the chosen form convincing? Are character choices grounded in scenes? Are quotations and sources credited? Have I represented disagreement fairly? Does the piece acknowledge something unresolved?

Teacher response notes

Evidence matters more than agreement

1-5: Look for contrasts in value, the need to communicate evidence, complementary scientific expertise and the gap between written protection and implementation in the fictional world. Technology should be evaluated through purpose and consequences, not labeled inherently good or bad.

6-10: Strong answers examine trust, secrecy, support and differing skills. Require textual support for claims about motives; cooperation under pressure does not by itself settle accountability. Students can disagree about characters while using careful evidence.

11-14: Real institutions and scientific work can ground a novel without making its dialogue factual. Wildlife observations may have several explanations. Abyssium, the commercial plot and the legal developments are fictional; research real extraction issues independently.

15-18: Encourage fair counterarguments and distinctions between rules, implementation and outcomes. Students should identify realistic youth roles such as learning, communicating and participating through adults, rather than covert surveillance or confrontation.

19-22: Look for a distinction between capability and judgment. Accept different interpretations of responsibility and achievable contributions. Career impressions should become questions for professionals, not assumptions about every person's work.

Project assessment notes

Sanctuary brief: Check that a real designation is identified accurately and that the story's fictional agency changes are not described as current events.

Marine ally: Reward an explicit unknown. Do not reward invented certainty about a poorly studied species.

Deliberation: Assess the quality of evidence and representation of opposing arguments, not which policy position a student chooses. Different risk tolerances are not necessarily disagreements about the data.

Interview: Check whether a quotation is exact and a paraphrase preserves meaning. A professional's uncertainty should not be edited away to make a more dramatic conclusion.

Common misconception: Removing equipment or punishing wrongdoing does not, by itself, demonstrate complete ecosystem recovery. That would require evidence over time.

Feedback frame: "Your evidence supports ___. Your claim goes further when it says ___. A more precise version, or evidence needed next, would be ___."

Student sheet: an evidence ledger

Name: _____ Chapter / source: _____

Claim I am examining:

Evidence and where it came from: Include a chapter, source, date or timestamp as appropriate.

What the evidence directly shows:

My inference and the reasoning that connects it:

Another plausible explanation or counterargument:

What remains uncertain? What would strengthen or challenge the claim?

My revised wording:

Student sheet: a reasoned recommendation

Name: _____ Topic: _____

Recommendation and intended audience:

Two supporting reasons, with sources:

Strongest counterargument and my response:

Who benefits, who bears risks, and what remains unknown?

A condition or new finding that would change my recommendation:

Assess and revise

Score each area 1-3, then choose one improvement.

Evidence: 1 = claims lack support; 2 = relevant sources or scenes; 3 = sources are evaluated and conclusions match their limits.

Reasoning: 1 = assertion; 2 = clear connection between evidence and claim; 3 = alternatives and uncertainty addressed.

Ethical perspective: 1 = one interest considered; 2 = competing interests identified; 3 = benefits, risks and values weighed fairly.

Communication: 1 = unclear purpose; 2 = organized argument; 3 = precise language, credited sources and a meaningful revision.

Next improvement:

Curriculum, extensions and sources

Connections across subjects

Science: Ecosystems, research methods, technology and uncertainty. **Language arts:** Characterization, evidence, argument, counterargument and genre. **Civics:** Participation, institutions, shared resources and competing interests. **Ethics:** Responsibility, trust, consequences and fair representation. **Engineering:** Design goals, errors and unintended effects.

These are suggested curriculum connections, not a claim of formal standards alignment. The fictional legal plot is a discussion text, not current legal guidance.

Before reading: Ask what makes a claim convincing. **During reading:** Maintain an evidence ledger and revise conclusions. **After reading:** Compare the class's opening criteria with its final criteria.

Extensions: Use an MBARI public research video; examine how an image's context affects interpretation; hold a mock review panel; invite a scientist through the school; design a small evidence-based ocean information exhibit. Field visits are optional and require separate planning.

Source notes and further reading

Primary text and template: Luke Kilpatrick, The Vanishing Sanctuary, Book 4, print proof ISBN 9798993727905, including its reader's guide. This edition expands that guide's five discussion themes, four project types, six writing prompts and before/during/after framework.

R1. MBARI, ROV Doc Ricketts. Research vehicle capabilities and examples of scientific tools.

https://www.mbari.org/technology/rov-doc-ricketts/

R2. United Nations Scientific Advisory Board, Deep-sea Mining. Scientific concerns, knowledge gaps and questions for further study.

https://www.un.org/scientific-advisory-board/en/deep-sea-mining

R3. NOAA Science Council, Deep Sea Mining science fact sheet, January 2025. Further scientific background; consult current official material for policy questions.

https://sciencecouncil.noaa.gov/wp-content/uploads/2025/03/SoS_Deep_Sea_Mining_Jan2025.pdf

R4. Monterey Bay National Marine Sanctuary, Kelp Forests. An example of habitat information and monitoring context.

https://montereybay.noaa.gov/science/characterization/kelp-forests.html

Resources checked November 11, 2026. Institutions listed are sources, not sponsors or endorsers. No fictional misconduct is attributed to a real institution.

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